

Florida DEP Documents Show Dozens of Conventional Oil-Related Spills In Just Last 4 Years

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Governor Ron DeSantis
400 South Monroe Street
Tallahassee, FL 32399-1300

House Speaker Jose Oliva
420 The Capitol
402 South Monroe Street
Tallahassee, FL 32399-1300

Senate President Bill Galvano
305 Senate Building
404 South Monroe Street
Tallahassee, FL 32399-1100

Representative Blaise Ingolia
317 The Capitol
402 South Monroe Street
Tallahassee, FL 32399-1300

Representative Holly Raschein
418 The Capitol
402 South Monroe Street
Tallahassee, FL 32399-1300

***Re:** An analysis exemplifying how fracking and unconventional drilling would worsen Florida's propensity for oil-related spills*

Although Florida is currently home to only [87 wells](#),¹ Food & Water Watch found that between 2015 and 2018, production led to 35 spills, averaging 9 a year. The vast majority of wells are located in Santa Rosa, but production also occurs in Collier, Escambia, Hendry, and Lee.

Industry groups seem to think that new extraction technologies could unlock oil and gas from historically inaccessible reserves,² but unconventional drilling techniques are associated with a greater frequency and severity of spills than conventional drilling.

Background: Unconventional Drilling and Associated Spills and Leaks

The oil and gas industry is intent on using fracking and other unconventional forms of drilling in the State of Florida. Unconventional drilling practices can cause (and in other states, have resulted in) thousands of accidents, leaks and spills. Leaky well casings can be a source of contamination to underground water wells and aquifers, but contamination is not just an on-site problem, and drilling's risks reach beyond the drilling sites.

¹ Florida Department of Environmental Protection. Oil and Gas Permit Database. January 15, 2019. Accessed April 2019.

² Staletovich, Jenny. "If Florida's offshore oil rush ever happens, only one side of the state is likely to see it." *Miami Herald*. January 14, 2018.

Fleets of trucks and pipelines are used to transport oil as well as hazardous wastewater³ (or produced water, as the industry calls it) and toxic materials. Traffic and pipeline accidents alike have caused drilling wastewater to be released into soil, freshwater bodies and private property. Rivers, streams, wetlands and shallow aquifers, and soil quality on agricultural lands, are threatened by spills of oil, wastewater and chemicals.

States that have opened themselves to unconventional drilling have experienced substantial environmental degradation and water pollution. In 2008, *ProPublica* examined local and state government documents from just Colorado, New Mexico, Alabama, Ohio and Pennsylvania and identified more than 1,000 cases of leaks and spills at oil and gas industry sites.⁴ The fracking boom in North Dakota caused over 1,000 spills in 2011 alone.⁵ In 2014 the Pennsylvania Department of Environmental Protection recorded 209 incidents in which the oil and gas industry either contaminated or reduced the flow of water supplies.⁶ And more recently, a 2017 study found that as many as 16% of fracked wells spill liquids every year. This amounts to an astounding 6,600 releases over ten years in four states.⁷

Matrix acidizing can be more dangerous than fracking.⁸ Matrix acidizing involves the use of the toxic and corrosive chemicals such as hydrochloric and hydrofluoric acid.⁹ Chemicals involved in matrix acidizing increase the risk of leaks because they're capable of corroding casings, pipelines, tubing and tanks.¹⁰ The presence of acid solutions can also corrode underground cement well lining.¹¹

Food & Water Watch believes that use of fracking and the expansion of the heavy infrastructure needed to support unconventional drilling in Florida will result in more spills and the potential exposure to even more dangerous chemicals. Up until now, the oil and gas industry has had a fairly small footprint in Florida, but fracking could change that quickly, unless state officials act to prohibit all forms of unconventional drilling and fracking in the state promptly.

Findings: Florida's Current Operations Have a Poor Track Record

The weak environmental track record of current, conventional operations show that operators are not equipped to do unconventional extraction safely. Oil and wastewater discharges have contaminated waterways, befouled farmland, and discharged toxics near schools. An analysis of the Florida Department of Environmental Protection's database found:

- At least 35 spills and/or discharges related to on oil and gas between 2015 and 2018, an average of 9 per year (see the table on page 3 for detailed information on selected spills and discharges);¹²
- The vast majority of wells are drilled in Santa Rosa (51 wells), but production also occurs in Collier (19 wells), Escambia (9 wells), Hendry (6 wells), and Lee (2 wells).¹³

³ Drilling and fracking brings produced water up to the surface. This wastewater can be referred to as brine/saltwater or produced water. But no matter what it is called, the wastewater contains, in addition to the original drilling and well stimulation fluids, potentially extreme levels of harmful contaminants, which can include arsenic, lead, hexavalent chromium, barium, strontium, benzene, polycyclic aromatic hydrocarbons, toluene, xylene, corrosive salts and naturally occurring radioactive material, such as radium-226

⁴ Lustgarten, Abraham. "Buried secrets: Is natural gas drilling endangering U.S. water supplies?" *ProPublica*. November 13, 2008.

⁵ Kusnetz, Nicholas. "North Dakota's oil boom brings damage along with prosperity." *ProPublica*. June 7, 2012.

⁶ Legere, Laura. "DEP: Oil and gas operations damaged water supplies 209 times since end of '07." *Pittsburgh Post-Gazette*. July 22, 2014.

⁷ McGrath, Matt. "Thousands of spills at US oil and gas fracking sites." *BBC*. February 21, 2017.

⁸ Mohsin Yousufi, Muhammad et al. "Synthesis and evaluation of Jatropa oil-based emulsified acids for matrix acidizing of carbonate rocks." *Journal of Petroleum Exploration and Production Technology*. 2018 at 1 and 2.

⁹ Shonkoff, Seth B.C. et al. PSE Healthy Energy. University of California, Berkeley. Lawrence Berkeley National Laboratory. Weill Cornell Medical College. University of the Pacific. University of California, San Francisco. "Potential Impacts of Well Stimulation on Human Health in California." An Independent Scientific Assessment of Well Stimulation in California. Vol. 1, Chapter 6. 2015 at 401 and 402.

¹⁰ Pourabdollah, Kobra. "Matrix acidizing: a fouling mitigation process in oil and gas wells." *Review of Chemical Engineering*. 2018 at 5 and 17.

¹¹ Carvalho, Raissa T.R. et al. "Prospective acid microemulsions development for matrix acidizing petroleum reservoirs." *Fuel*. Vol. 238. 2019.

¹² Food & Water Watch Calculations of FL DEP reporting years 2015-2018. Accessed April 2019. **See methodology for more information.**

¹³ Florida Department of Environmental Protection. Oil and Gas Permit Database. January 15, 2019. Accessed April 2019.

- Between 2015 and 2018 four counties, Santa Rosa (18 spills), Hendry (8 spills), Collier (6 spills), and Lee (3 spills) experienced spills as a result of oil drilling operations;
- Collier [the largest volume spill](#) in which over 10,000 gallons of wastewater and oil spilled from a ruptured storage tank;
- In Hendry County a driver [failed to follow procedure](#), resulting in an overflow of excess oil;
- A Collier County [spill in early 2016](#) contaminated water and vegetation at the site, requiring extensive clean up;
- Oil drilling at a well pad in Lee County adjacent to an elementary school led to [contamination of soil with wastewater and oil](#).

Table of Selected Spills and Discharges 2015-2018			
Date of spill	Quantity Spilled	Details	County
June 19, 2015	12,600 gallons of wastewater, 10-15 gallons of oil	Saltwater storage tank ruptured, releasing produced water and oil	Collier
January 29, 2016	42 gallons of oil	Rubber gasket broke, spilling oil into swamp water. Cleanup required removing vegetation and 3,150 gallons of contaminated swamp water.	Collier
October 6, 2016	126 gallons of wastewater	Jay Highschool was placed on lockdown after pipeline broke in the adjacent field.	Santa Rosa
November 7, 2017	9,744 gallons of wastewater	Recently built pipeline broke contaminating nearby Bray Mill Creek. Remediation required the removal of 160 tons of soil.	Santa Rosa
November 20, 2017	126 gallons of wastewater, 42 gallons of oil	Spill occurred at a wellpad on the block of an elementary school	Lee
November 23, 2017	231 gallons of oil	Oil allowed to overflow onto the ground due to improperly operated oil tanker	Hendry
December 29, 2017	1,050 gallons of wastewater	Wastewater leaked from wellpad into a dry ravine that feeds Bray Mill Creek	Santa Rosa
February 2, 2018	1,890 gallons of wastewater	Pipeline under cotton/peanut field burst releasing substantial quantities of wastewater into agriculturally productive land	Santa Rosa
February 16, 2018	210 gallons of wastewater	Wastewater spilled from well site, 42 gallons entered nearby Kelly Creek	Santa Rosa
October 8, 2018	2,000 gallons of wastewater mixed with oil	Corrosion in a production well released significant quantities of both crude oil and wastewater in the Cypress National Preserve	Collier

Methodology: Raw data obtained at Florida Department of Environmental Protection data base located at: depedms.dep.state.fl.us. Using “Public Log-In” search results from the Catalog = Oil & Gas, Search by Property, Document Type = “SPILL RELATED” or “DISCHARGE REPORTING RELATED.” Duplicate incidents were determined and removed based on spill date and location. Co-location information determined by DEP documents and Google Maps. Reporting appeared inconsistent and incomplete prior to 2015 so years preceding were excluded from the analysis. Units were converted from barrels to gallons at 42 gallons per barrel as used by FL DEP for both oil and wastewater. Due to the reliance on DEP reporting, narrow

categories of search and potential for database incompleteness this investigation is a conservative estimate of the number of environmental incidents related to oil production in Florida.